

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

**FACT SHEET
TENTATIVE ORDER NO. R9-2002-0282
NPDES PERMIT NO. CA 0109142**

**WASTE DISCHARGE REQUIREMENTS
FOR
CONTINENTAL MARITIME OF SAN DIEGO, INC.
SAN DIEGO COUNTY**

1. CONTACT INFORMATION

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2. BACKGROUND

Continental Maritime of San Diego, Inc. (CMSD) is an existing full service ship repair, modification, and maintenance facility located in San Diego, California. Operations at CMSD generate or have the potential to generate waste discharges to San Diego Bay that may cause a short-term loss of designated beneficial use of the receiving water. Such discharges include water contaminated with abrasive blast material, paint, oils, fuels, lubricants, solvents, or petroleum.

On October 15, 1997, the Regional Water Quality Control Board, San Diego Region, (Regional Board) adopted Order No. 97-37, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAG039002, *Waste Discharge Requirements for Discharges from Ship Construction, Modification, Repair, and Maintenance Facilities and Activities Located in the San Diego Region (TTWQ/CPLX 2B)*. Order No. 97-37 regulates the potential intermittent discharge of pollutants from ship construction, conversion, and maintenance, and repair facilities, to San Diego Bay, a navigable

water of the United States. Order No. 97-37 expires on October 15, 2002.

Order No. 97-37 covered shipyards that had a Threat to Water Quality/Complexity (TTWQ/CPLX) rating of 2/B, as defined in Title 23, Section 2200, California Code of Regulations (CCR). The shipyards with a TTWQ/CPLX rating of 2/B are considered NPDES dischargers that could impair the designated beneficial uses of the receiving water and cause short-term violations of water quality objectives. CMSD is the only shipyard that was covered under Order No. 97-37. The other two shipyards in the San Diego Region, National Steel and Shipbuilding Company (NASSCO) and Southwest Marine (SWM), are covered under Order No. 97-36, the General Shipyard Permit for facilities with the highest possible TTWQ/CPLX rating of 1/A.

On April 15, 2002 CMSD submitted a *Report of Waste Discharge* (RWD) for renewal of its NPDES Permit. The application provided current information regarding CMSD's operations and waste discharge streams.

Since the General Shipyard Permit was adopted on October 15, 1997, CMSD has implemented numerous operational and structural changes. It is appropriate to designate the renewal NPDES permit (Order No. R9-2002-0282) as an individual permit rather than a general permit. Order No. R9-2002-0282 is specifically written for the CMSD facility and reflects the operational, structural, and discharge conditions unique to CMSD. Furthermore, any references to activities and structures that do not exist at CMSD (such as ship construction activities, use of floating dry docks or graving docks, and shipbuilding ways) have not been included in the new NPDES permit.

3. FACILITY DESCRIPTION

CMSD is a full service ship repair facility and is located on 14 acres of land and 19.4 acres of water on the eastern waterfront of central San Diego Bay. The shipyard is located between Crosby Street and Belt Street. The San Diego Unified Port District is the lessor to CMSD. Land portions of the lease include 350,625 square feet of office, warehouse, and manufacturing building area, and 500 parking spaces. Improvements to the water area include six piers, ranging in length from 175 feet to 700 feet. CMSD does not have any floating dry docks, graving docks, or shipbuilding ways on its premises.

The shipyard provides a variety of ship repair and modification services, including: structural repair, sheetmetal fabrication, surface preparation (mechanical cleaning and abrasive blasting) and painting, electrical component repair and replacement, machinery overhaul and repair, boiler repair, bilge/ballast water treatment, acid flushing, and insulation removal and installation.

Although CMSD has six piers on its property, it only uses two piers (Pier Nos. 4 & 6) for ship berthing, repair, and maintenance activities. The other four piers (Pier Nos. 1, 2, 3, and 5) are considered non-operational and are primarily used for material storage, some temporary docking, and barge storage.

The on-shore facilities on CMSD's property that are associated with the generation, storage, and treatment of industrial wastes include: a grit blasting and outdoor painting area, a metal parts steam cleaning area, a tank farm consisting of eight 20,000 gallon tanks for treatment of oily bilge water, a maintenance area (for production support operations such as engine rebuilding, tune-ups, and parts degreasing), hazardous materials and paint storage areas, portable storage tanks (for oil and wastewater storage), and an outdoor structural area (for fabrication of metal structures including cutting, welding, and grinding).

The CMSD shipyard also has a comprehensive structural network to control stormwater runoff and run-on and segregate it from potential contact with pollutants generated from the industrial processes conducted on its premises. The stormwater control facilities at CMSD include storm drain inlets, catch basins, berms, detention ponds, pumps, and above ground storage tanks.

4. DISCHARGE SOURCES AND WASTE CHARACTERIZATION

A. POINT SOURCE DISCHARGES

Order No. R9-2002-0282 prohibits all industrial process discharges associated with ship construction, modification, repair, and maintenance activities, to San Diego Bay. These activities include abrasive blasting, hydroblasting, metal grinding, painting, tank cleaning, removal of bilge and ballast water, removal of anti-fouling paint, sheet metal work, electrical work, mechanical repair, engine repair, hull repair, and sewage disposal. These discharges may be conducted by CMSD personal or by contractors and could occur at several locations, including aboard ships when docked, on the piers, or on shore locations.

Currently all industrial wastewater discharges from CMSD, such as bilge/ballast water, steam cleaning water, boiler blowdown, and hydrostatic test water for pipes and tanks, are routed to a tank farm wastewater treatment system (for removal of settleable solids) and stored for approximately 24 hours and then treated in an oil/water separator prior to release into the City of San Diego's sanitary sewer system. These industrial discharges are regulated under an Industrial User Discharge Permit (11-0417-01A) issued by the San Diego Metropolitan Wastewater Department. The permit authorizes CMSD to discharge an annual average of 5,125 gallons per day of industrial process wastewater into the sanitary sewer system.

The only CMSD point sources that discharge directly to San Diego Bay are the fire protection systems at Pier Nos. 4 and 6. These pressurized salt water systems provide on-board fire protection for U.S. Navy and commercial vessels being serviced at CMSD. Each pier is equipped with a fire pump with a capacity of 3000 gallons per minute (gpm). The water from San Diego Bay is taken into the fire pump which pressurizes the water to approximately 150 pound per square inch (psi). The pressurized water is then delivered to a ship's fire mains via installed piping and hoses. The circulation of the seawater in the ship's fire mains is crucial in maintaining a state of readiness in the event a fire starts on the ship while being serviced at CMSD. The discharge to San Diego Bay consists of the excess pressure released at the pump. Excess pressure relief is necessary to protect the pumps from damage due to pump cavitation. The overpressure discharge from each pump to San Diego Bay averages 2000 gpm (*CMSD Report of Waste Discharge*, April 2002). The number, size, type, and location of ships being serviced at CMSD will determine which fire pump will have to be utilized and how much overpressure will be discharged. The pollutants contained in the discharge from the fire mains may include trace quantities of metals such as copper, zinc, lead, and nickel. This discharge only occurs while ships are berthed at one or both piers for service. The locations of the outfalls and discharge flow rate associated with the fire protection pumps are shown in the table below:

Table 1: Point Source Discharge Sources and Outfall Locations

Discharge Source	Outfall No.	Latitude (N)	Longitude (W)	Average Daily* Flow Rate (MGD)
Fire pump at Pier No. 4	1	32° 41.683'	117° 08.950'	2.88
Fire pump at Pier No. 6	2	32° 41.550'	117° 08.950'	2.88

*Assuming a continuous 24-hour discharge from each pump at 2000 gpm.

B. INDUSTRIAL STORM WATER DISCHARGES

(1) *Stormwater Diversion System*

CMSD operates and maintains a Stormwater Diversion System (SWDS). CMSD developed this SWDS to eliminate and/or reduce the concentration of pollutants discharged to the receiving waters (San Diego Bay) through the storm water conveyance system. The SWDS was implemented in response to *Discharge Specification 11.a.i* of Order No. 97-37 which required CMSD to terminate the discharge of the first flush of stormwater runoff from high risk areas by April 15, 1999. The SWDS system at CMSD is designed to capture approximately 2.3 inches of rainfall (24-hr, 5 year event) in various catchment basins around the facility. This includes the first flush of rainwater runoff associated with a storm event. The first flush generally includes the highest concentration of pollutants in the runoff. As the storm event continues, the runoff generally contains lower concentrations of contaminants.

The industrial area is divided into 12 distinct industrial stormwater control areas that are segregated by berms and associated pumping mechanisms to control and divert stormwater to a series of above ground tanks for storage (see Attachment 1). Stored stormwater is eventually released into the City of San Diego's sanitary sewer system after termination of the storm event. The Industrial User Discharge Permit (No. 11-0417-01A) issued by San Diego Metropolitan Wastewater Pretreatment Program to CMSD authorizes the shipyard to release up to 10,420 gpd of dilute wastewaters (including stormwater) in addition to 5,125 gpd of industrial wastewater discharges (see *Section D* of this Fact Sheet) to the sanitary sewer system. All stormwater that is exposed to high-risk industrial activities such as shore-side grit blasting and painting is not discharged directly to the sanitary sewer system. This stormwater, like industrial wastewater discharges at CMSD, is routed to the tank farm and oil/water separator for treatment prior to release to the sewer system.

In event of a major storm that exceeds 2.3 inches in a 24-hour period, CMSD has the capability of releasing excess stormwater to San Diego Bay via eight outfalls. Excess stormwater that collects in the vicinity of eight designated industrial process areas within the facility (Areas 1, 2, 3, 5, 7, 8, 10, and 11) is routed to these outfalls during a major storm (see Attachment 1). Overflow stormwater from Areas 4, 6, 9, and 12 is not routed directly to outfalls, but allowed to drain into and commingle with stormwater in Area 10, prior to release to Outfall No. 5. The stormwater collection areas and location of corresponding outfalls are listed below in Table 2 (refer to Attachment 1 for facility diagram showing location of industrial process areas, stormwater collection areas, and outfalls):

Table 2: Storm Water Collection Areas and Outfalls

Area	Area Description [*]	Outfall No.	Latitude (N)	Longitude (W)
1	Pier No. 6 diversion area	4	32° 41.633'	117° 8.883'
2	Pier No. 4 diversion area	6	32° 41.683'	117° 8.950'
3	Pier No. 7 apron area	3	32° 41.633'	117° 8.867'
4	Paint and abrasive blast area	5 [*]	32° 41.617'	117° 9.050'
5	Outdoor structural area	9	32° 41.733'	117° 8.867'
6	Steam cleaning pit and tank farm area	5 [*]	32° 41.617'	117° 9.050'
7	Building 9 bulkhead area	7	32° 41.717'	117° 8.983'
8	Maintenance area	10	32° 41.700'	117° 8.883'
9	Entrance production roadway area	5 [*]	32° 41.617'	117° 9.050'
10	Main yard production roadways and rooftops	5 [*]	32° 41.617'	117° 9.050'
11	Building 9 entrance pump out area	11	32° 41.733'	117° 8.950'
12	Building 4 pump out area	5 [*]	32° 41.617'	117° 9.050'

^{*} Overflow stormwater from Areas 4, 6, 9, and 12 is not routed directly to outfalls, but allowed to drain into Area 10, prior to release to Outfall No. 5

(2) *Industrial Activities and Best Management Practices*

Following is a brief description of the significant industrial activities conducted in the designated stormwater control areas at CMSD and the structural and non-structural Best Management Practices (BMPs) implemented by CMSD to prevent and control spills and releases from these industrial activities. Also discussed below are the stormwater pollution control measures associated with these industrial activities, as listed in CMSD's *Best Management Practices Program Manual*. These pollution prevention measures are implemented in conjunction with the stormwater collection and diversion system operated by CMSD (see *Section 4.B(1)* of the Fact Sheet):

(a) Grit Blast and Paint Area

The majority of CMSD's shore-side grit blasting and painting is performed outdoors in an area that is designated as high-risk for stormwater pollution. The grit blasting and painting operation is located in CMSD's stormwater control Area 4. Potential sources of pollutants include paint overspray, stormwater runoff, airborne abrasive grit particles, and paint spills. Pollutants of concern include solvents, paint chips containing metals (copper, zinc, lead etc.), and grease and oil. Painting and grit blasting of large structures is usually conducted in a makeshift enclosure with scaffolding in conjunction with shrouding materials such as eagle screen and shrink-wrap, to prevent airborne grit and overspray from depositing on the ground. Abrasive blast materials and paint overspray is swept up daily to prevent any contamination of stormwater.

(b) Production Piers No. 4 and 6

Production Piers No. 4 and 6 are used for berthing ships which are undergoing repair and maintenance. These piers are located in CMSD's stormwater control Areas 1 and 2. Industrial activities include metal surface preparation, painting, grinding, welding, and various ship repair activities. These activities are generally short-term and can

result in storage of materials awaiting delivery aboard a vessel or materials stored in support of industrial activities. Potential sources of pollution include spills during storage and transportation, contaminated stormwater run-off and wind conveyance of general trash and grit. Typical wastes include paint debris, paint sludge, grease and oil, solvents, and petroleum wastes. CMSD uses secondary containment pallets for storage of paint sludge storage drums and various other spent chemical drums and lubricant drums, for containment of spills and leaks. The sidewalls of the piers are equipped with gutters that divert rainwater to high/low sump pumps which subsequently pump the water to the stormwater storage tanks. All liquid and materials handling is performed furthest away from scuppers on the piers. The scuppers are equipped with screens at all times and cleaned periodically. Furthermore, the scuppers are closed with visqueen and sandbags when performing high-risk operations.

(c) Tank Farm

Large volumes of oily bilge/ballast tank waters from ships, stormwater from high-risk areas, and other industrial wastewaters are routed to the tank farm system for storage, treatment, and ultimate disposal to the sanitary sewer system. The tank farm is located in CMSD's stormwater control Area 6. The main pollutant of concern in this area is oil and grease contained in water spilled from the tanks. The eight tanks comprising the tank farm are surrounded by a secondary containment system with a capacity of approximately 20,000 gallons. The tanks are equipped with sacrificial zinc anodes that protect the lining of the tanks from corrosion and subsequent leaching of metals into the stored water. All rainwater that becomes trapped inside the secondary containment area is pumped out and processed through the tank farm.

(d) Hazardous Materials Accumulation and Storage Area

The HazMat accumulation and storage area at CMSD is located directly adjacent to the tank farm and the main parking lot. This area is located in CMSD's stormwater control Area 6. The HazMat area is utilized for central accumulation of wastes such as paints, solvents, acids, and other regulated hazardous substances. The area receives waste from satellite accumulation points throughout the shipyard. Workers in this area consolidate and package the waste for off-site transportation, treatment, and disposal, using appropriate manifests. Potential sources of pollutants include spills during transfer and insufficient secondary containment. The entire storage area is surrounded by curbs and berms which serves as a secondary containment and provides adequate volume to contain any spills or leaks. When the containment area accumulates rainwater, the tank department is contacted to pump out the residual water into the tank farm treatment system. The surface areas and berms in the HazMat storage area are frequently inspected to certify that they are in good condition and devoid of any cracks or leaks.

(e) Maintenance Area

The CMSD maintenance area is where all production support equipment repairs are performed. Repairs include total engine rebuilding, tune-ups, working fluid changes, parts degreasing, painting and a wide assortment of maintenance activities. This area is located in CMSD's stormwater control Area 8. Potential sources of pollutants include

accidental spills, improper labeling or storage, and stormwater overflow from the containment system. Pollutants used or stored in the maintenance area include oils, hydraulic fluids, solvents, wastewater, paints, coolants, and fuel. All used oil filters, used oil, and other wastes are transferred in sealed containers to the HazMat accumulation and storage area for offsite disposal. To ensure that pollutants are not discharged to the storm drains in the event of rainfall, a valve with lock is installed on the maintenance area storm drain. When the secondary containment area around the maintenance area accumulates rainfall, the tank department is contacted to pump water to the tank farm treatment system.

(f) Outdoor Structural Fabrication Area

The CMSD outdoor structural fabrication area is mainly used for steel structure and material storage, although production operations are periodically conducted in this area. The metal fabrication operation is located in CMSD's stormwater control Area 5. The operations include grinding, cutting, and welding. Potential sources of pollution include stormwater flows through the industrial area, spills from stationary equipment, and spills from transportation of hazardous materials. Pollutants generated in this area include general trash, metal grinding dust, welding residues, and lubricants. Spills of oils, hydraulic fluids and other working liquids are immediately cleaned up and disposed off properly. This ensures that pollutants are not entrained in stormwater runoff.

(g) Recyclable Materials Collection Area

The recyclable materials collection area at CMSD is where all ferrous and non-ferrous materials are collected for recycling. This area is located in CMSD's stormwater control Area 10. Sources of pollution include stormwater contact of materials and wind conveyance of metal fragments and dust. Pollutants generated in this area include aluminum, copper, iron, and tin particles, and cutting oils and grease. Rainwater is diverted from the pallets and containers containing the recyclable materials by means of a sloped roof and a berming system. Frequent housekeeping practices are employed in the area including broom sweeping, spill/leak cleanup, and requiring recyclable containers to be covered with lids.

(h) Steam Cleaning Pit Area

This steam cleaning pit area at CMSD uses high-pressure steam to degrease and clean the surfaces of pumps, motors, pipes, and various metal parts. This area is located in CMSD's stormwater control Area 6. The cleaning is conducted over an 8'x 20', 3,000 gallon double walled sump, grated at the top. When the steam sump fills up to capacity, the wastewater is pumped into a dedicated 15,000 gallon holding tank. The wastewater is subsequently released to the sewer system after it goes through the treatment tank farm and oil/waste separation system. The sludge that accumulates at the bottom of the sump is treated as a hazardous waste and hauled offsite for disposal with an appropriate manifest.

Potential sources of pollution from the steam cleaning pit area include overspray that may deposit grime outside of the bermed area and excessive flows may overflow the

bermed area. Pollutants generated in this area include oily water, grease, solvents, and various petroleum products.

The steam cleaning pit area is fully contained by an impervious surface and berms capable of capturing a minimum of half an inch of rain at any one time and discharging rainwater to the tank farm for treatment. If metal parts to be cleaned are large, tarps and other facilities are put in place to prevent overspray from projecting outside the bermed area.

5. BASIS FOR WASTE DISCHARGE REQUIREMENTS

Section 402 of the federal Clean Water Act (CWA) gives the U.S. EPA the authority to issue NPDES permits for discharges into navigable waters and to prescribe conditions for such permits necessary to carry out the provisions of the CWA. In California, the U.S. EPA has delegated this authority to the State of California.

As indicated in *Section 4.A* of this Fact Sheet, Order No. R9-2002-0282 prohibits all industrial process discharges associated with ship construction, modification, repair, and maintenance activities to San Diego Bay. The only direct discharge authorized from CMSD to San Diego Bay is from the non-contact fire protection water systems. In addition, industrial stormwater flows that exceed the retention capacity of CMSD's stormwater collection and diversion system are also discharged to San Diego Bay via eight outfalls. The basis for waste discharge requirements in Order No. R9-2002-0282 is discussed below:

A. NPDES REGULATION FOR BEST MANAGEMENT PRACTICES (40 CFR PART 122.44(k))

According to 40 CFR 122.44(k) of the NPDES regulations, Best Management Practices (BMPs) may be included as permit conditions to control or abate the discharge of pollutants when:

1. Authorized under Section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;
2. Authorized under Section 402(p) of the CWA for control of stormwater discharges;
3. Numeric effluent limitations are infeasible; or
4. The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

At CMSD, the pollutants and wastes associated with ship repair and maintenance activities (as described in *Section 4.B(2)* of this Fact Sheet) are such that implementation of BMPs is appropriate and necessary. Implementation of a BMP Program that emphasizes preventive measures is an effective way to address the potential for the discharge of pollutants and wastes from the site.

Order No. R9-2002-0282 requires that CMSD develop and maintain a BMP Program Manual that contains description of onsite activities, pollutant sources, and pollutants; descriptions of BMPs used at the site; drawings; maps; and copies of and/or references to parts of other relevant programs.

B. BASIN PLAN

The Comprehensive Water Quality Control Plan, San Diego Basin (9) (hereinafter Basin Plan) was adopted by this Regional Board on September 8, 1994 and subsequently approved by the State Water Resources Control Board (SWRCB) on December 13, 1994. Subsequent revisions to the Basin Plan

have also been adopted by this Regional Board and adopted by the SWRCB. The Basin Plan designates beneficial uses and narrative and numerical water quality objectives, and prohibitions that are applicable to the discharges regulated under this Order.

1. *Beneficial Uses*

The Basin Plan (p. 2-47, Table 2-3. Beneficial Uses of Coastal Waters) established the following beneficial uses for the waters of San Diego Bay:

- a. Industrial Service Supply;
- b. Navigation;
- c. Contact Water Recreation;
- d. Non-contact Water Recreation;
- e. Commercial and Sport Fishing;
- f. Preservation of Biological Habitats of Special Significance;
- g. Estuarine Habitat;
- h. Wildlife Habitat;
- i. Rare, Threatened, or Endangered Species;
- j. Marine Habitat;
- k. Migration of Aquatic Organisms; and
- l. Shellfish Harvesting.

2. *Toxicity*

The Basin Plan includes the following narrative water quality objective for toxicity:

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board.

The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge or, when necessary, for other control water that is consistent with requirements specified in U.S. EPA, State Water Resources Control Board or other protocol authorized by the Regional Board. As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour acute bioassay.

In addition, effluent limits based upon acute bioassays of effluents will be prescribed where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be encouraged.

Pursuant to 40 CFR 122.44(d)(v), Order No. 97-37 contained effluent limits for whole effluent toxicity (acute toxicity). Order No. 97-37 specified that in a 96-hour static or continuous flow bioassay (toxicity) test, undiluted storm water runoff associated with industrial activity which is

discharged to San Diego Bay shall not produce less than 90 percent survival, 50 percent of the time, and not less than 70 percent survival, 10 percent of the time, using standard test species. Order No. 97-37 also specified a daily maximum chronic toxicity limit of 1 TUc for stormwater and non-stormwater discharges.

- **Point Source Discharges**

A review of the last four years acute toxicity results for fire protection water discharges showed that the percent survival of standard species ranged between 90% and 100% and was never in violation of the requirement that acute toxicity “shall not produce less than 90% survival, 50% of the time”. The monitoring frequency for fire protection water will remain at annually in Order No. R9-2002-0282.

- **Stormwater Discharges**

There has been no industrial stormwater discharged to San Diego Bay from CMSD’s eight stormwater outfalls during the two most recent annual monitoring periods (July 2000 – June 2001 & July 2001 – June 2002). This is because there has not been a storm large enough during these time periods to exceed the capacity of CMSD’s stormwater collection and diversion system.

CMSD did discharge stormwater runoff to San Diego Bay during the 1999-2000 wet season, since a stormwater diversion system had not been constructed at the shipyard at that time. Acute toxicity data for stormwater discharges for the 1999-2000 wet season revealed a species survival of 40 percent (Outfall 6, Pier No. 4). Furthermore, the concentrations of copper and zinc in the industrial stormwater sampled during the 1999-2000 wet season ranged from 136 - 1050 µg/l and 288 - 1640 µg/l respectively. These concentrations of copper and zinc were significantly greater than the USEPA Benchmark Values (63.3 µg /l for copper and 117 µg/l for zinc) for industrial stormwater and would not enable the undiluted industrial storm water to achieve a 90 percent standard species survival rate.

As indicated in *Section 4.B(1)* of this Fact Sheet, CMSD’s recently constructed a stormwater collection system can hold up to 2.3 inches of rain in a 24-hour period. During a major storm event that exceeds the capacity of CMSD’s stormwater collection system, overflows will be routed to the eight outfalls associated with CMSD’s industrial stormwater control areas. These outfalls will discharge the overflow stormwater to San Diego Bay. It is evident from the 1999-2000 sampling data that CMSD has the potential of discharging stormwater flows to San Diego Bay that may cause or have the reasonable potential to cause or contribute to an exceedance above the toxicity objective stated in the Basin Plan.

Order No. R9-2002-0282 requires continued compliance of industrial stormwater with the whole effluent toxicity discharge specifications (i.e. shall not produce less than 90 percent survival, 50 percent of the time, and not less than 70 percent survival, 10 percent of the time, using standard test species) as listed in Order No. 97-37. CMSD will only be required sample for acute toxicity when flows are being discharged to San Diego Bay from any of its eight designated industrial stormwater outfalls, for two storm events during the year. CMSD will also be required to sample and demonstrate compliance with whole effluent toxicity standards for discharges from its fire protection systems to San Diego Bay.

On September 11, 2002 the Regional Board adopted an NPDES permit (Order No. R9-2002-0002) for the U.S. Naval Base at Point Loma (NBPL), in San Diego. Order No. R9-2002-0002 directed the U.S. Navy to conduct a 4-year study of the toxicity in storm water discharges from all areas of the Naval Submarine Base (SUBASE) in the NBPL complex, at which industrial activities are undertaken. The study would recommend a scientifically valid survival rate for acute exposure to discharges of storm water from industrial areas at SUBASE. The study may include a Toxicity Identification Evaluation (TIE), or a Toxicity Reduction Evaluation (TRE). Since the industrial activities at the SUBASE are similar to those conducted at CMSD and other shipyards (i.e. ship repair activities include abrasive blasting, hydroblasting, metal grinding, painting, tank cleaning, removal of bilge and ballast water, removal of anti-fouling paint, sheet metal work, electrical work, mechanical repair, engine repair, and hull repair), the Regional Board has no objection to CMSD participating in this study and identifying and recommending a scientifically valid acute toxicity discharge specification. Until an alternate acute toxicity limit for stormwater is developed, validated, and presented for Regional Board review and approval, the discharge specification in Order No. R9-2002-0282 (i.e. shall not produce less than 90 percent survival, 50 percent of the time, and not less than 70 percent survival, 10 percent of the time, using standard test species) shall continue to be enforced at CMSD.

C. ENCLOSED BAYS AND ESTUARIES POLICY

The State Water Resources Control Board (State Board) adopted a *Water Quality Control Policy for Enclosed Bays and Estuaries of California* (Bays and Estuaries Policy) on May 16, 1974. The Bays and Estuary Policy establishes principals for management of water quality, quality requirements for waste discharges, discharge prohibitions, and general provisions to prevent water quality degradation and to protect the beneficial uses of waters of enclosed bays and estuaries. These principles, requirements, prohibitions, and provisions have been incorporated into Order No. R9-2002-0282.

The Bays and Estuaries Policy contains the following principle for management of water quality in enclosed bays and estuaries, which includes San Diego Bay:

The discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge. For the purpose of this policy, treated ballast waters and innocuous non-municipal wastewater such as clear brines, wash water, and pool drains are not necessarily considered industrial process wastes, and may be allowed by Regional Boards under discharge requirements that provide protection to the beneficial uses of the receiving water.

The Bays and Estuaries Policy also prohibits the discharge or by-passing of untreated wastes. This Order prohibits the discharge and bypassing of untreated waste except for non-contact fire protection system water.

The Bays and Estuaries Policy also contains the following principle for management of water quality in enclosed bays and estuaries, which includes San Diego Bay:

The following policies apply to all of California's enclosed bays and estuaries:

1. *Persistent or cumulative toxic substances shall be removed from the waste to the maximum extent practicable through source control or adequate treatment prior to discharge.*
2. *Bay or estuarine outfall and diffuser systems shall be designed to achieve the most rapid initial dilution practicable to minimize concentrations of substances not removed by source control or treatment.*
3. *Wastes shall not be discharged into or adjacent to areas where the protection of beneficial uses requires spatial separation from waste fields.*
4. *Waste discharges shall not cause a blockage of zones of passage required for the migration of anadromous fish.*
5. *Nonpoint sources of pollutants shall be controlled to the maximum extent practicable.*

The terms and conditions of Order No. R9-2002-0282 are consistent with the above policies.

D. CALIFORNIA TOXIC RULE AND IMPLEMENTATION POLICY

The U.S. EPA promulgated the final California Toxic Rule (CTR) on May 18, 2000, as required by Section 303(c)(2)(B) of the federal Clean Water Act. The CTR regulations, codified in 40 CFR 131, establish water quality standards for inland surface waters. The water quality criteria established in the CTR is legally applicable in the State of California for inland surface waters, and enclosed bays and estuaries for all purposes and programs under the Clean Water Act.

On March 2, 2000, the State Board, in Resolution No. 2000-15, adopted a *Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Implementation Policy). The Implementation Policy implements the provisions promulgated by the U.S. Environmental Protection Agency in the California Toxic Rule (CTR) and establishes the following:

1. Implementation provisions for priority pollutant criteria promulgated by the U.S. EPA through the National Toxic Rule (NTR) and the CTR, and for priority pollutant objectives established in the Basin Plan;
2. Monitoring requirements for 2,3,7,8-TCDD (tetrachlorodibenzo-p-dioxin) equivalents; and
3. Chronic toxicity control provisions.

The above provisions are only applicable to non-stormwater discharges. Any stormwater discharge to San Diego Bay is exempt from the provisions of the Implementation Policy. As indicated in *Section 4.A* of this Fact Sheet, the only non-stormwater discharges from CMSD to San Diego Bay are from its fire protection systems at Pier Nos. 4 and 6. These discharges, although potentially large in volume (average daily flow rate of 2.88 MGD from each fire pump) are essentially innocuous and non-industrial in nature. The discharges are essentially excess pressure releases from the fire pumps. These releases occur when the pressurized non-contact seawater that is pumped and circulated in the berthed ship's fire protection system

exceeds a specified safe level. The excess pressure release is necessary to prevent damage to the impellers and valves of the pumps due to cavitation. CMSD has little control on the maintenance of the internal fire protection systems of the ships berthed on its piers. Subsequently, the condition and level of corrosion of the tubings and conduits associated with the fire protection systems may vary from ship to ship. Furthermore, the flow rate and pressure of fire protection water circulated through each individual ship also varies. The flow rate ranges from 1000 gpm to 3000 gpm with a corresponding pressure range of 100 to 150 psi. The concentration of metals, suspended solids, and other contaminants in the discharge from the fire protection system are however not expected to be statistically different when compared to the concentrations in the intake water.

On April 15, 2002 CMSD submitted analytical results of intake and discharge samples taken from fire protection water (at Pier No. 6), as part of its Report of Waste Discharge for renewal of the NPDES permit. No samples for the CTR analysis were taken from the fire protection system at Pier No. 4. Samples from the fire pump at Pier No. 6 are considered to be representative of all fire pump discharges from Pier No. 4. This is because both systems are non-contact in design, both pump water directly from San Diego Bay within 500 feet of each other, the pumps at Pier Nos. 4 and 6 have an identical flow ratings and models, and the discharge sampling of metals, toxicity, and other pollutants over the last three years (1999-2002) from the fire protection system at the two piers have shown almost identical results.

The fire protection sampling at Pier No. 6 was conducted on March 20, 2002 and was analyzed by Del Mar Analytical Laboratory (Toxicity Equivalency Factors for 2,3,7,8-TCDD) and Weck Laboratories, Inc. (40 CFR 131.38 Priority Pollutants).

Pursuant to Section 1.3 of the Implementation Policy, a reasonable potential analysis (RPA) of data is required to determine which priority pollutants would require effluent limitations. All priority pollutants except antimony, arsenic, selenium, copper, lead, and zinc were found to be in non-detectable levels in both effluent and background for the sampling conducted on March 20, 2002. Staff conducted an RPA for all priority pollutants (based on the March 20, 2002, sampling data), except copper, using the SWRCB's California Permit Writer and Training Tool (CPWTT) computer program. Based on the results of this analysis and in conjunction with the use of Best Professional Judgement (BPJ), staff concluded that effluent limits will not be required for any of the applicable metals, volatiles, semi-volatiles, pesticides, polychlorinated biphenyls (PCBs), and 2,3,7,8-TCDD (dioxin), listed in the CTR.

A review of three year effluent sampling data (1998-99, 1999-00, and 2000-01) for metals from the fire protection systems (at Pier Nos. 4 & 6) submitted as part of the Order No. 97-37 monitoring requirements, consistently showed detectable levels of copper, zinc, and lead. Order No. 97-37 did not require sampling for intake water for metals and other priority pollutants. The existing sampling data for copper from the fire protection systems is inadequate since there are only seven data points available for effluent sampling and one data point available for San Diego Bay water intake sampling. Copper is the principle priority pollutant that may be entrained in the fire protection water due to contact with eroding piping, pump impellers, and valve bodies, and it is important that adequate data for this constituent be obtained prior to conducting an RPA. Furthermore, the sediment and water column in the vicinity of the Coronado Bridge in San Diego Bay has been designated as an impaired and contains high levels of copper.

Pursuant to Section 2.2.2 (Interim Requirements for Providing Data) of the Implementation Policy, Order No. R9-2002-0282 requires the discharger to conduct additional effluent and intake sampling for copper from the fire protection systems at Piers No. 4 and 6 and to calculate an incremental daily mass loading to San Diego Bay. Monthly sampling for copper concentrations will be required starting with the adoption of

this Order. Once adequate data has been submitted, staff will conduct an RPA to determine if effluent limits are needed for copper. If the RPA identifies a need for effluent limits, staff will calculate limits using procedures specified in Section 1.4 of the Implementation Policy. Pursuant to Section 1.4.4 of the Implementation Policy, staff will also determine if intake water credits can be granted to CMSD during establishment of these effluent limits. Order No. R9-2002-0282 may be re-opened at a later date to incorporate the results of this analysis.

The Monitoring and Reporting Program (MRP) No. R9-2002-0282 will require the discharger to sample for selected priority metals (arsenic, cadmium, chromium, lead, mercury, silver, and zinc) from the fire protection system and stormwater outfalls, even though the Order does not assign effluent limits to these metals. This monitoring will provide a useful information on the variation in the concentrations of priority metals discharged to San Diego Bay over a period of time and also enable an evaluation of the preventative Best Management Practices CMSD is employing to reduced loading of pollutants to San Diego Bay.

Section 3 of the Implementation Policy requires effluent monitoring for 17 congeners of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs). These congeners and corresponding toxic equivalency factors (TEFs) are listed in Table 4 of the Implementation Policy. The purpose of the monitoring is to assess the presence and amounts of the congeners being discharged to inland surface waters, enclosed bays, and estuaries for the development of a strategy to control these chemicals in a future multi-media approach. Pursuant to Section 3 of the Implementation Policy, the discharger is required to monitor its fire protection system effluent for the presence of the 17 congeners once during the wet weather period (October – March) following the adoption of Order No. R9-2002-0282 (congener data for dry weather sampling was already included in CMSD's *Report of Waste Discharge, April 15, 2002*). The discharger will be required to multiply each measured or estimated congener concentration by its respective TEF value and report the sum of these values. The provisions of this monitoring requirement are incorporated into MRP No. R9-2002-0282.

E. OCEAN PLAN

The SWRCB adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on December 3, 2001. The Ocean Plan establishes water quality objectives (for bacteriological, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharged to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

Although the Ocean Plan is not applicable to enclosed bays such as San Diego Bay, the salinity and beneficial uses of San Diego Bay are similar to those of the ocean waters of the State. Therefore, in order to protect the beneficial uses of San Diego Bay, this Order uses the Ocean Plan as a reference for developing discharge specifications, receiving water prohibitions, and narrative limitations and to supplement the provisions contained in the California Toxic Rule, Implementation Policy, and the Enclosed Bays and Estuaries Policy.

Order No. R9-2002-0282 requires the fire protection discharge water to comply with the grease and oil, settleable solids, turbidity, and pH effluent limits listed in Table A of the Ocean Plan. Industrial storm water flows will be sampled for these pollutants but not be subject to effluent limits.

F. THERMAL PLAN

According to *Section 4.B(1), New Discharges, Enclosed Bays*, of the State Water Quality Control Plan for Control of Temperature in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan), elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses. The maximum temperature of waste discharges shall not exceed the natural temperature of the receiving water by more than 20 degrees F. According to *Definition 11* of the Thermal Plan, CMSD is a new discharger since the shipyard commenced operations after the adoption date of the Thermal Plan (September 1975).

The only waste discharged to San Diego Bay that is applicable to *Section 4.B(1)* of the Thermal Plan is the effluent from the fire protection systems. The provisions of this discharge requirement are incorporated into Order No. R9-2002-0282.

G. SECTION 303 (d) LIST AND SEDIMENT MONITORING

Section 303(d) of the Clean Water Act requires States to identify waters that do not meet water quality standards after applying certain required technology-based effluent limits ("impaired" water bodies). States are required to compile this information in a list and submit the list to USEPA for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, States are required to prioritize waters/watersheds for future development of total maximum daily load (TMDL).

In February 1998, the Regional Board designated the 30 acres of San Diego Bay shoreline in the vicinity of the east end of the Coronado Bridge as an impaired water body and included this area in the Section 303(d) list. The listing was the result of information gathered for the *Chemistry, Toxicity and Benthic Community Conditions in Sediments of the San Diego Bay Region, Final Report*, September 1996 (commonly known as the report for the Bay Protection and Toxic Cleanup Program (BPTCP)).

The shoreline of the CMSD shipyard is located directly under the eastern end of the Coronado Bridge and is part of the impaired area listed in the 303(d) list as 'Near Coronado Bridge 30 acres'. The area was listed as being impaired for benthic community effects and sediment toxicity.

Order No. 97-37 established a sediment monitoring program for CMSD requiring the facility to collect annual surficial sediment samples at 11 stations in the segment of San Diego Bay along the shipyard's waterfront. Order No. 97-37 also instituted sediment sampling requirement for three background reference stations in San Diego Bay. The monitoring included sediment sampling for indicators (grain size, trace metals including cadmium, chromium, copper, nickel, silver, mercury, arsenic, lead, and zinc, and tributyltin (TBT)), total petroleum hydrocarbons (TPH), polychlorinated biphenyls/triphenyls (PCBs/PCTs), and polyaromatic hydrocarbons (PAHs), and an analysis of paint chips entrained in the sediment. The purpose of the sampling was to monitor changes in the levels of sediment contamination over a period of time and to use the information for any future cleanups and implementation of waste load allocations for the TMDL program.

MRP No. R9-2002-0282 requires the continuation of the sediment monitoring at the 11 stations and reference sites, originally prescribed in Order No. 97-37. The monitoring station locations, sampling methods, and frequency of sampling are incorporated in MRP No. R9-2002-0282.

H. ANTIDEGRADATION POLICIES

Pursuant to 40 CFR 131.12 and State Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (collectively "antidegradation policies"), the Regional Board shall ensure that any increase in pollutant loading to a receiving water is consistent with antidegradation policies. Order No. R9-2002-0282 does not authorize any new discharges. Furthermore, effluent concentration and mass emission rate limitations in this Order are the same or more stringent than those in Order No. 97-37. Therefore, the requirements of Order No. R9-2002-0282 are consistent with antidegradation policies.

6. EFFECTIVE AND EXPIRATION DATES OF ORDER NO. R9-2002-0282

Order No. R9-2002-0282 becomes effective ten (10) days after its adoption provided the Regional Administrator, USEPA, has no objection. If the Regional Administrator objects to its issuance, this Order shall not become effective until such objection is withdrawn. This Order expires on November 13, 2007.

7. WRITTEN COMMENTS

Interested persons are invited to submit written comments upon these draft waste discharge requirements. Comments should be submitted either in person or by mail, during business hours, to:

John H. Robertus, Executive Officer
Attn: Industrial Compliance Unit
Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, California 92123

Written comments regarding tentative Order No. R9-2002-0282 must be submitted no later than November 6, 2002. Oral comments will be received during the hearing on November 13, 2002.

8. PUBLIC HEARING

In accordance with 40 CFR 124.10, the RWQCB must issue a public notice whenever NPDES permits have been prepared, and that the tentative permits will be brought before the RWQCB at a public hearing. The public notice has been published in The San Diego Union-Tribune newspaper no less than 30 days prior to the scheduled public hearing.

Tentative Order No. R9-2002-0282, will be considered by the Regional Board at a public hearing beginning at 9:00 am on November 13, 2002. The location of this meeting is as follows:

Regional Water Quality Control Board

Regional Board Meeting Room
9174 Sky Park Court, Suite 100
San Diego, California 92123

9. WASTE DISCHARGE REQUIREMENT REVIEW

After the close of the public hearing, the RWQCB may adopt a final NPDES permit. Any person may petition the State Board to review the decision of the Regional Board. A petition must be sent to the Office of the Chief Counsel, State Water Resources Control Board, P.O. Box 100, Sacramento, CA 95801 within 30 days of the Regional Board public hearing.

10. ADDITIONAL INFORMATION

For additional information, interested persons may write the following address or contact Mr. Hashim Navrozali of the Regional Board staff at (858) 467-2981 or by email at navrh@rb9.swrcb.ca.gov.

Regional Water Quality Control Board, San Diego Region
Attn: Hashim Navrozali
9174 Sky Park Court, Suite 100
San Diego, California 92123

Copies of the applications, tentative NPDES waste discharge requirements, and other documents (other than those that the Executive Officer maintains as confidential) are available at the RWQCB office for inspection and copying according to the following schedule (excluding holidays):

Monday and Thursday:	1:30 pm to 4:30 pm
Tuesday and Wednesday:	8:30 am to 11:30 am
	1:30 pm to 4:30 pm
Friday:	8:30 am to 11:30 pm

An electronic copy of the Fact Sheet and tentative Order can be accessed on the Regional Board website: <http://www.swrcb.ca.gov/rwqcb9/>.

11. REFERENCES FOR WASTE DISCHARGE REQUIREMENTS

The following documents provide the necessary references for the basis of this NPDES permit:

- a. Order No. 97-37, General NPDES Permit No. CAG039002, *Waste Discharge Requirements from Ship Construction, Modification, Repair, and Maintenance Facilities and Activities Located in the San Diego Region (TTWQ/CPLX 2B)*.
- b. The Water Quality Control Plan for the San Diego Basin (9) (Basin Plan), 1994.
- c. The Code of Federal Regulations Part 40, Section 122, 131, and 136.
- d. The Clean Water Act; Sections 208, 301, 302, 303, 304, 306, 307, 402, 403, and 405.
- e. The California Code of Regulations, Title 23, Division 3 and 4.
- f. Report of Waste Discharge, NPDES Permit Renewal Application, Continental Maritime of San Diego, Inc., April 2002.
- g. SWRCB Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Implementation Policy).
- h. State Water Quality Control Plan for Control of Temperature in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan).
- i. Water Quality Control Plan, Ocean Waters of California, California Ocean Plan (Ocean Plan), 2001.
- j. *Guides to Pollution Prevention, The Marine Maintenance and Repair Industry*, EPA Office of Research and Development, EPA/625/7-91/015, October 1991.
- k. *Guidance Manual for Developing Best Management Practices (BMP)*, EPA Office of Water, EPA 833-B-93-004, October 1993.

Attachment 1

Facility Plot Plan Showing Industrial Activity Areas, Stormwater Control Areas, and Outfalls at
Continental Maritime of San Diego, Inc.